



Shenzhen Lejin radio frequency technology Co., LTD

SPECIFICATIONS FOR APPROVAL

Customer Name: SHENZHEN ELECTRON TECHNOLOGY CO.,LTD

Product Name: WIFI Antenna

Product Model: 103

Part Number: LJF02-22121308-R0A

Write By : Huxuwen

Issued Date: 2023-02-17

CUSTOMER

ENGINEER R&D DEPT	BUSSINESS DEPT	APPROVAL

LEJIN

R&D DEPT	ENGINEER DEPT	APPROVAL

REV	MODIFIED DESCRIPTION	DATE	REMARK
V1.0	Initial Draft Release	2023/02/17	



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3.Product Specification

A. Electrical Characteristics	
Frequency	2400MHz ~2500 MHz
VSWR	<2.0
Efficiency	≥40%
Impedance	50Ohm
Polarization	Linear
Gain(2.4GHz)	≤2.0dB
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Black),LJWF29A
Cable Type	Φ1.13mm,L650mm,Black
Connector Type	IPX1
Dimension	43.0*11.5mm
C. Environmental	
Operation Temperature	- 20 °C ~ + 70 °C
Storage Temperature	- 30 °C ~ + 85 °C
Humidity	40%~95%

4.Test Equipment & Conditions

- | | |
|----------------------------------|---------------------|
| 1.Network Analyzers | Agilent 8753D/5071C |
| 2.HSPA and LTE protocol test set | R&S CMW500 -PT |
| 3.Communications Test Set | Agilent 8960 |
| 4.3D Chamber Test System | |

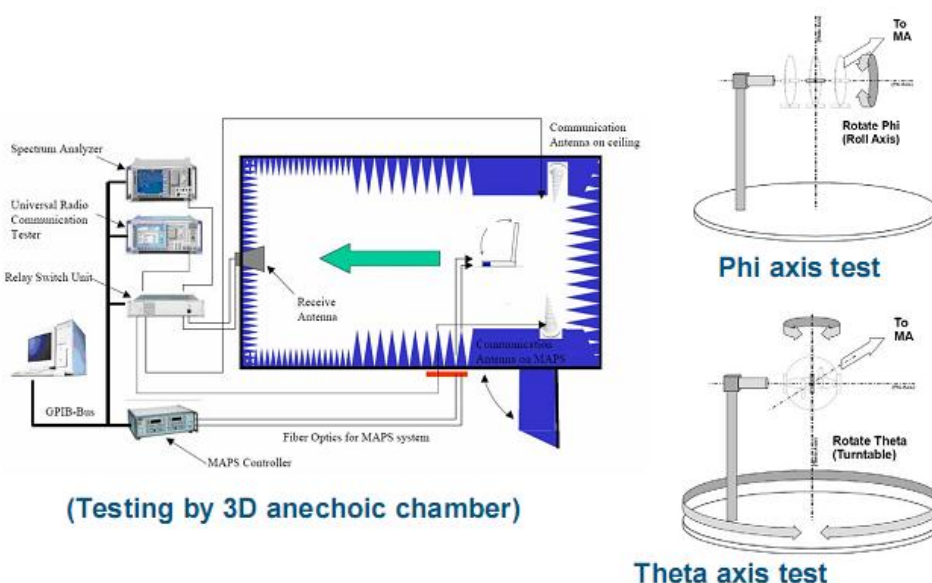


Chart 1 Test topology

5.Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

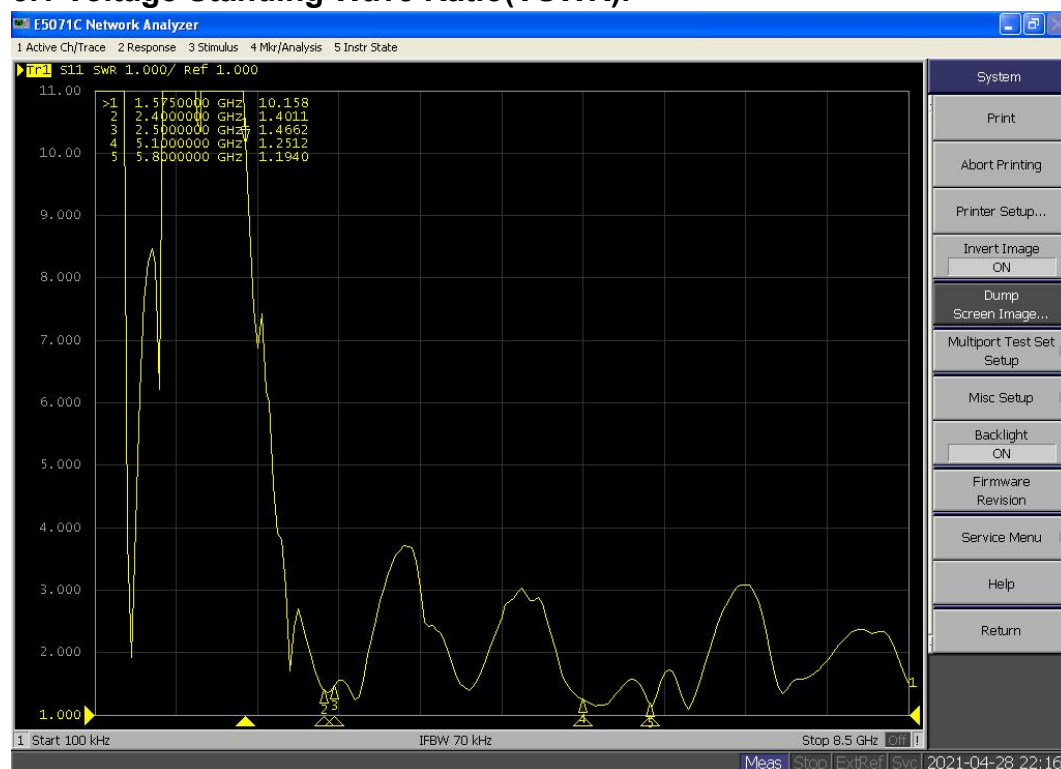


Chart 2 VSWR

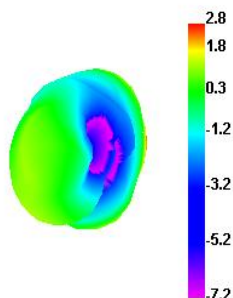
5.2 Efficient and gain.

Passive Test For 2.4G	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
	Effi(%)	42.92	48.42	45.89	49.73	45.98	49.52	47.16	50.01	43.90	43.55	41.54
	Gain(dBi)	1.92	2.00	2.05	2.16	2.13	2.27	2.03	2.15	2.25	2.14	1.88

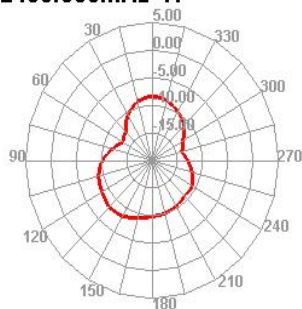
Passive Test For WIFI 5G	Freq(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850
	Effi(%)	51.22	53.19	50.84	54.64	52.43	54.77	57.28	52.72	54.71	50.55	55.99	51.51	53.22	57.32	51.92
	Gain(dBi)	2.11	2.25	2.19	2.24	2.22	2.15	2.24	2.18	2.12	2.28	2.23	2.15	2.24	2.21	2.15

5.3 Radiation pattern.

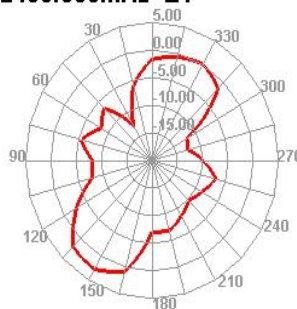
2400.000MHz



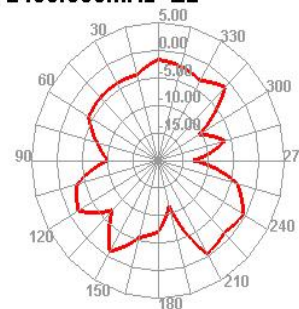
2400.000MHz H



2400.000MHz E1

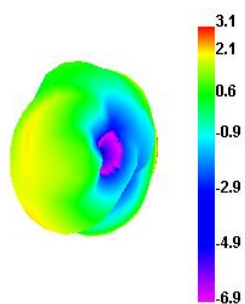


2400.000MHz E2

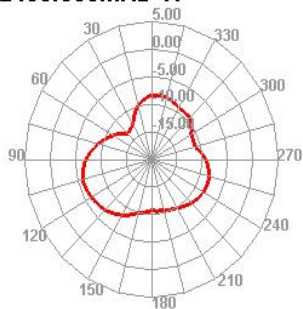




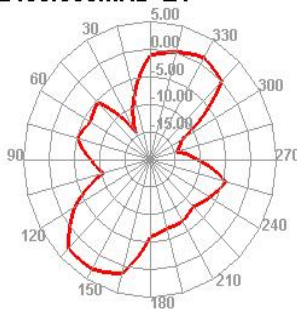
2450.000MHz



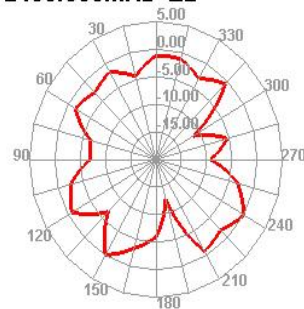
2450.000MHz H



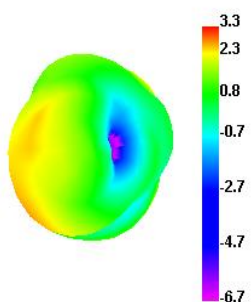
2450.000MHz E1



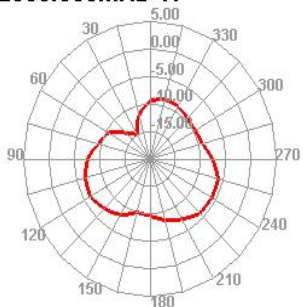
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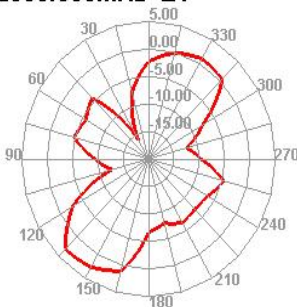
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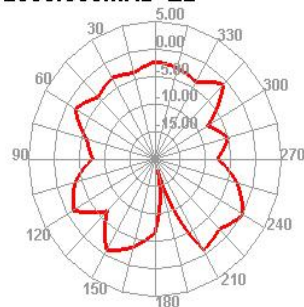
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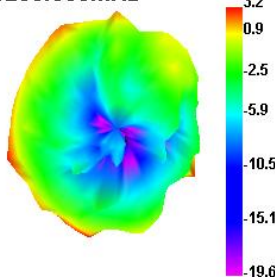
2500.000MHz E1



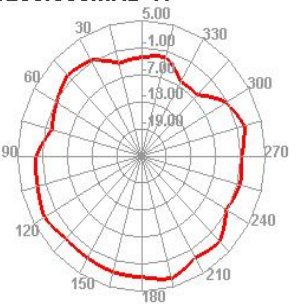
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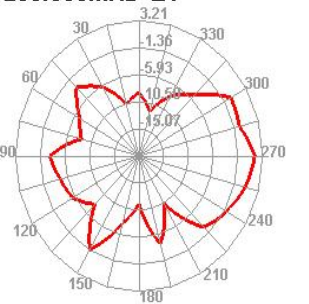
5200.000MHz



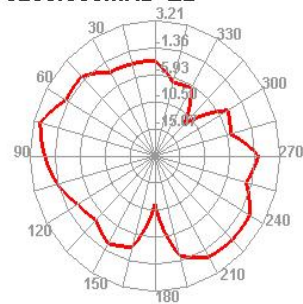
5200.000MHz H



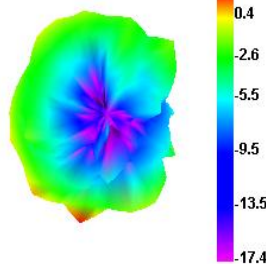
5200.000MHz E1



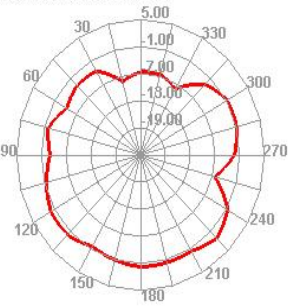
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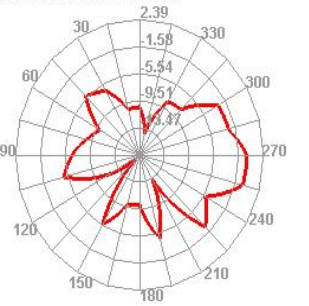
5550.000MHz



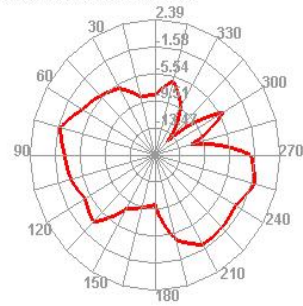
5550.000MHz H



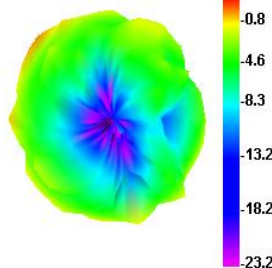
5550.000MHz E1



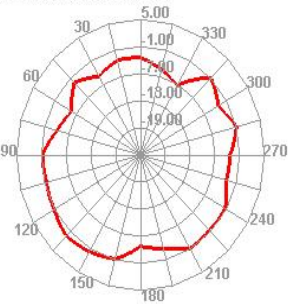
5550.000MHz E2



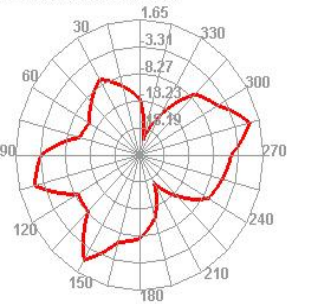
6000.000MHz



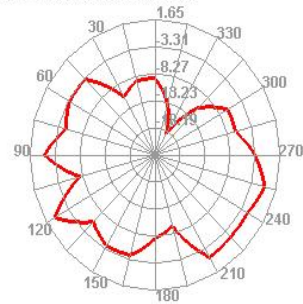
6000.000MHz H



6000.000MHz E1



6000.000MHz E2



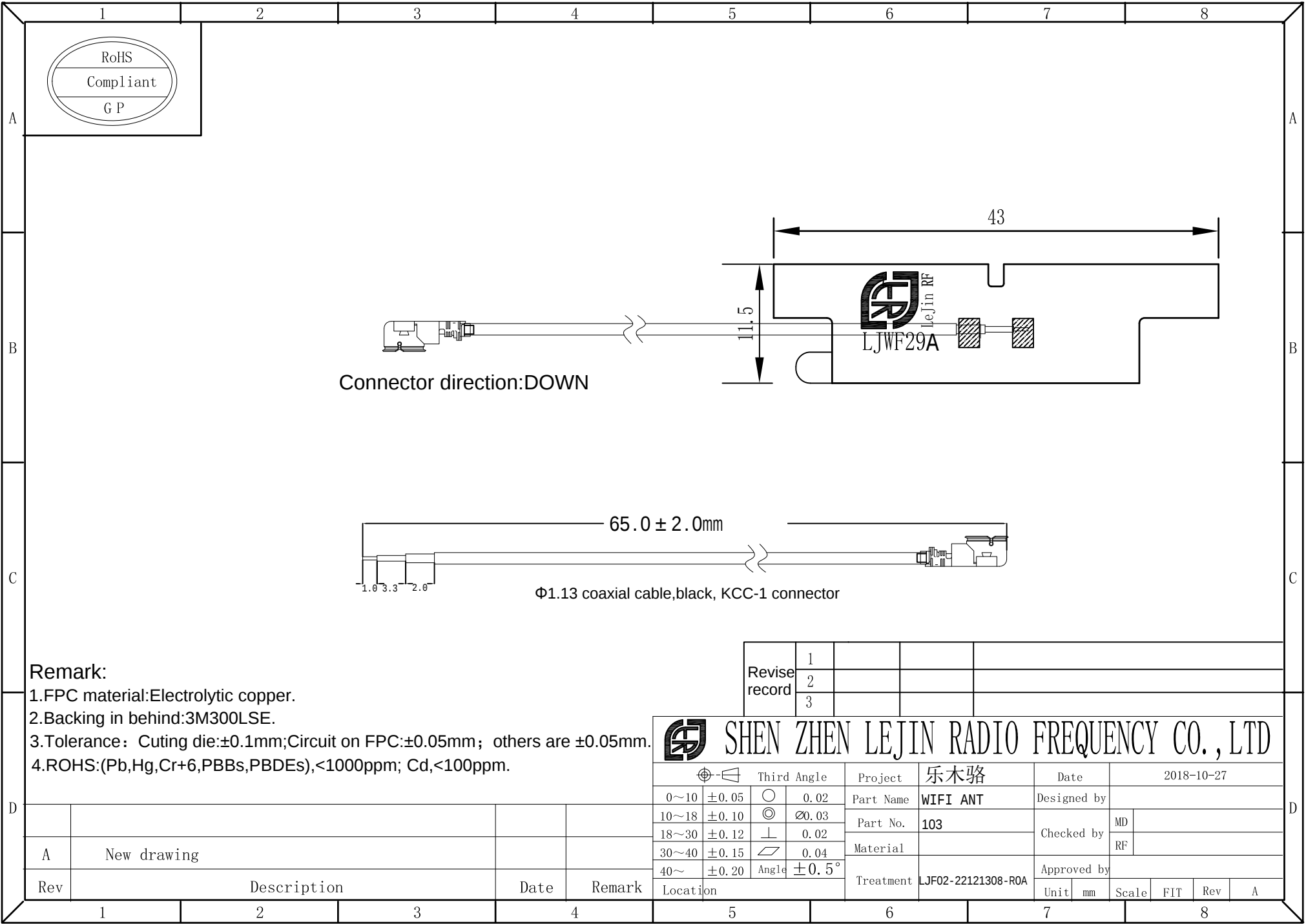


6. Reliability Test

Test Item		Test condition	Equipment	Specification	Result
1	Low Temp. Storage Test	Temperature: -30℃, Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-down the temp. to -30℃ in one hour, store antenna for 44 hours; step-up temp to 25℃, test antenna after 2 hours.	Temp.&Humidity Tester	No material deformation is allowed. Electronic Performance is ok.	PASS
2	High Temp./High Humid Storage Test	Temperature: 85℃ Humidity: 85% RH Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-up the temp. to 80℃ and the humidity up to 85% in one hour, store antenna for 44 hours; step-down temp to 25℃, test antenna after 2 hours.	Temp.&Humidity Tester	No material deformation is allowed. Electronic Performance is ok.	PASS
3	Salt-Spray Test	Placing antenna in the Salt-Spray Tester, set the test condition, Temp: $35 \pm 2^\circ\text{C}$ Humidity: 85% NaCl salt spray: $5 \pm 1\%$. PH value: 6.5~7.2 Testtime: 24 hours	Salt-Spray Tester	No color change No appearance rusting	PASS

7. Assemble type(omit)

8. Product Drawing



Remark:

- 1.FPC material:Electrolytic copper.
- 2.Backing in behind:3M300LSE.
- 3.Tolerance: Cutting die:±0.1mm;Circuit on FPC:±0.05mm; others are ±0.05mm.
- 4.ROHS:(Pb,Hg,Cr+6,PBBs,PBDEs),<1000ppm; Cd,<100ppm.

Revise record	1			
	2			
	3			

		SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD	
Third Angle		Project	乐木骆
0~10 ±0.05		Date	2018-10-27
10~18 ±0.10		Part Name	WIFI ANT
18~30 ±0.12		Part No.	103
30~40 ±0.15		Material	
40~ ±0.20		Treatment	LJF02-22121308-ROA
Angle ±0.5°		Approved by	
Location		Unit	mm
		Scale	FIT
		Rev	A

New drawing			
Rev	Description	Date	Remark
1	2	3	4